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ABSTRACT

Intended for college instructors interested in promoting and developing intellectual abilities in their students, this publication details the Perry and Toulmin models of cognitive development. The first section explains the Perry model of dualistic students, who are comfortable in a framework of absolute knowledge and unquestionable right and wrong answers, multiplistic students, who recognize multiple perspectives but are unable to evaluate and weigh them adequately, and relativistic students, who are comfortable questioning authority and see knowledge as relative to their own frames of reference. A second section suggests implications of this model for classroom instruction, followed by a section providing information on how to find out more about the Perry model. A fourth section looks at the Toulmin model of cognitive development, which is characterized by a six-step system of rational argumentation, and how the model may be applied in the classroom. A final section notes that relativistic students are, by definition, working within the Toulmin model, and suggests that academic study demands that students work on a relativistic level. (JC)

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Fostering Cognitive Development in College Students — The Perry and Toulmin Models

The college classroom is widely regarded as a place where inquiring students comprehend and challenge complex ideas. Frequently, instead, the classes consist of diligent students eagerly taking notes and willing to memorize anything for the exam—yet missing the course's essence and failing to take a critical stance in relating to the ideas discussed. Such a mismatch causes frustration for college teachers, who often ask the question: "Can't students think?"

This Digest focuses on the question of development of intellectual abilities in college students, with attention to two influential theorists, William Perry and Stephen Toulmin. Brief summaries of their ideas will be presented, along with implications for classroom instruction.

What Is College Student Cognitive Development?

Perry (1970, 1981) has developed a model that holds much explanatory power in suggesting how students make sense out of the information, theories, experiences, and opinions that confront them in college classrooms. The three descriptions below summarize many of the differences in student thinking described by Perry.

Dualistic students are those who see the world as a place of absolutes such as right or wrong, true or false. Knowledge is seen as existing absolutely. Dualistic students tend to their role in terms of "right" answers and the role of the professor as providing those answers. These students will present judgments and evaluations as if they were self-evident, without the need for substantiation.

Multiplistic students recognize that there are multiple perspectives to problems. However, they are unable to evaluate each perspective adequately. A typical multiplistic response might be "We're all entitled to our own opinions," or "We're all good people." Argumentation ends, or is avoided, with the multiplistic attitude.

Relativistic students see knowledge as relative to particular frames of reference. They show a capacity for detachment; they look for the "big picture," think about their own thinking, and evaluate their own ideas as well as those of others. Frequently, by seeing alternative perspectives, they have difficulty making a decision. Authorities are seen as people who can and should be questioned.

Implications of the Perry Model for Classroom Instruction

Understanding the Perry Model sheds some light on student perspectives that are different from the college teacher's expectations. For example, in class sessions dualistic students tend to respond negatively and question the credibility of a professor who fails to respond immediately with a firm answer. They are perplexed when arguments elicit a variety of valid interpretations. If told that a number of responses to an assignment might be appropriate and correct, they are disturbed by the idea of multiple answers. Some might even voice the opinion that there should be only one right answer and all others should be incorrect.

The notion of "right answers" carries over to evaluation of students. Dualistic and multiplistic students have difficulty when, during discussions of exam results, a professor responds: "Yes, that answer could also be considered correct," or "Let me think about that for a minute." The multiplistic student might always wonder "Why can't mine be right, too?" while the dualist is thinking—"If he doesn't know it dead cold, he's not much of an expert!"

It is understandable that many students function as dualists if we accept Rowe's (1983) analysis which holds that many elementary and secondary teachers operate according to a model of learning that views students as "essentially bottomless receptacles of information. . . . This tends to limit the teacher's function to one of conveying information and correcting student recitation." With such teaching methods there is typically an official response to be recited whether or not one understands it or believes it. Reports on higher education by the Holmes Group (1986) note that lecture models with minimal student participation dominate undergraduate education in colleges and universities.

How Can I Find Out More about the Perry Model?

Over the past decade, extensive research using the Perry Model in many academic disciplines has been conducted. Of course, the model has not gone unchallenged. Bizzell (1984), for example, charges that it is inherently value-laden insofar as it assumes that relativism is the most desirable intellectual stance and perhaps an end in itself. One excellent source of information is the "Perry Network Bibliography" which is updated semi-annually and has currently over 300 citations. The bibliography is maintained by the ISEM, 10429 Barnes Way, St. Paul, MN 55075. This body of research, along with materials on Perry in the ERIC database, offers an array of suggestions for working with college students. One particularly useful approach to sharpening their intellectual skills is found in the Toulmin Model.

What Is the Toulmin Model?

The Toulmin Model (Toulmin, Rieke, and Janik 1984) deals with rules of rational argumentation. Its particular strength lies in the fact that it makes a systematic and precise use of words

and concepts already familiar to most educated people. The model is a six-step system of argument: (1) a *claim* is made; (2) *grounds*, i.e., facts to support it, are offered; (3) a *warrant* for connecting the grounds to the claim is conveyed; (4) *backing*, the theoretical or experimental foundations for the warrant, is shown (at least implicitly); (5) appropriate *modal qualifiers* (some, many, most, etc.) temper the claim; and (6) possible *rebuttals* are considered.

As the concepts in the Toulmin model are applied to various kinds of texts and used in classroom discussion, students may be brought to see that the grounds for a claim are slim or that the theoretical backing is absent or of dubious relevance. Students learn that the plausibility of the claim is dependent upon a set of relations that can be extended and analyzed in a systematic, although not necessarily conclusive, fashion. Thus, students see that the language of reason is—or ought to be—the language of everyday life, in all of its complexity and untidiness (Kolupke, 1985).

The Toulmin Model has wide applicability across disciplines and in relation to a variety of texts. The history professor can advise the student writing on the failure of the Roman empire that stronger grounds are needed for the claim that Gracchan reforms were the cause. The psychology professor can suggest that a term paper on the function of dreams needs stronger theoretical backing. The sociology professor can advise the young analyst of the causes of child abuse to qualify her conclusions. The American literature professor can remind the enthusiastic admirer of Hemingway to anticipate possible rebuttals to his argument that the Hemingway "code" is a complete guide to life.

Toulmin and Perry—Further Classroom Implications

Much of the distinction between the dualistic and multiplistic students and the relativistic students can be explained in Toulmin's terms. For example, dualists see the warrant made by the expert as unquestionable, while the multiplistic students think everyone has rights to make claims and warrants without backing. The relativist, by definition, is operating with a conscious conception of the justification and tentativeness embedded in the Toulmin Model.

Academic study requires that students operate at relativistic levels. Well-prepared students should know the variety of ways in which the basic concepts and principles of a discipline are organized to incorporate its facts, and they need techniques through which truth or falsehood, validity or invalidity are established (Shulman 1986). Moreover, our understanding of the nature of disciplinary knowledge has undergone many paradigm shifts in this century (Schwartz and Ogilvy 1979). Various disciplines from physics to literary criticism constantly reshape themselves in ways that resist dualistic conceptions. In Toulmin's terms, when there are competing claims for ideas within a discipline or even for conceptions of the nature of disciplines, students should be able to generate rules for determining which claim has the greater warrant for their purposes. So the Toulmin Model lends a useful terminology for dealing with the relativistic expectations which can be applied across the range of coursework students encounter.

The Perry Model offers college teachers a lens to clarify the diversity of backgrounds and dispositions that students bring to a topic. The model also suggests that many of the expectations for student understanding of sophisticated concepts and principles are beyond many students' levels of cognitive development. The Toulmin Model offers one method to bridge the gap, providing a practical framework of concepts and terms that can be used in analyzing ideas in a variety of disciplines.

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